

MAURITIUS

Local feed production

Mauritius, one of the world's top luxury tourism destinations, possesses one of the world's most pristine environments and is free from major tropical animal diseases. It also has had a continuous increase in demand, from both tourists and locals, for locally produced milk and meat. Yet, despite having all of these drivers, domestic food production has been confronted by the high price of imported concentrated feeds, and the island must depend on the import of milk and meat. The Joint FAO/IAEA Division has been assisting Mauritius in increasing its research capacities to render its dairy and meat industries competitive through producing feed locally, utilizing by-products and residues of the sugar industry and also using land that has become available due to the decline in sugar cane production.



Mauritius local milk and meat production

Shows increased competitiveness

Mauritius is an island nation in the Indian Ocean with an area of 2 040 kilometres squared. Its upper middle income economy, with per capita income of over US \$15 591 in 2012, is one of the largest in Africa. The growth of its tourism industry, backed by well-designed and run hotels, has brought with it a rapidly increasing demand for milk and meat produced in Mauritius. There has also been an increased demand from domestic consumers for home-grown animal products. Yet, in spite of the fact that it possesses one of the cleanest environments in the world and is free from major tropical animal diseases, Mauritius still depends heavily on the import of milk and meat. This is mainly due to the high price of imported concentrated feeds, which limits domestic production.

Since the beginning of the 1990s, the Joint FAO/IAEA Division has worked with the Food and Agricultural Research and Extension Institute (FAREI) to assist Mauritius in building its research capacities to address animal nutrition and reproduction issues and, in turn, improve productivity. With this support, Mauritius now envisions having vibrant private dairy and beef industries based on using by-products and residues of the sugar industry and also using land freed from sugar cane production for feed production.

The Joint Division's work with FAREI included developing a repository of fodder germplasm through selective breeding of indigenous grasses and incorporation of tropical forages from elsewhere. In addition to abundant sugar cane tops, which can be collected and used as animal feed, as many as 18 fodder germplasms were identified and collected. In addition, through work with FAREI, forage agronomy was developed or optimized by analysing individual fodders to determine their nutrients and chemical compositions. The information on fodder production and conservation, nutritive values of various fodders and their uses in animal feeding were summarized and disseminated among farmers. Also a



fodder calendar was developed based on the availability of various fodders throughout the year.

Fodder crops available year-round

As sugar cane tops are only abundant from June through November, the fodder cultivation schemes have been designed to cope with the availability of green forages during the rest of the year. Most of the fodder germplasms developed and adapted grow year-round to fill the gap when sugar cane tops are not available. Among these fodders, important ones are elephant grass (*Penisetum purpureum*), setaria (*Setaria sphacelata*), Guatemala grass (*Tripsacum laxum*), star grass (*Cynodon plectostachyus*), herbe fatak (*Panicum maximum*), herbe d'argent (*Ischaemum aristatum*), Bermuda grass (*Cynodon dactylon*), herbe bourique (*Stenotaphrum dimidiatum*), herbe sikin (*Bothriochloa pertusa*), herbe polison (*Heteropogon contortus*), calliandra (*Calliandra calothyrsus*), acacia (*Leucaena leucocephala*), bois noir (*Albizia lebbek*) and poivrier marron (*Schinus terebentifolius*).

Fodder database supports increased productivity

A database of fodders and feeds and their nutrient compositions compiled by the project now assists extension workers, farmers and practicing veterinarians in establishing on-farm feed formulation in order to achieve improved productivity of the animals. In addition, capacities have been developed for conducting radioimmunoassays of progesterone in milk and blood, involving sample collection, preparation, analyses, quality



control and data management for better understanding of animal reproduction and reproduction-nutrition interactions. The technology and database developed by the local staff are now being implemented through FAREI's Extension Services to improve herd-level productivity, reduce production costs and greenhouse gas emissions to, in turn, support sustainable growth of the industry in the context of Mauritius's open market economy.

As a small country with limited financial and animal resources, this programme is a good example of collaboration with the Joint Division delivering added value. As experiences build, the Joint Division will support Mauritius in developing small-scale production systems to produce high-value animal food in a clean environment. The Joint Division will continue providing support for strengthening animal fertility improvement services and developing feed formulations by using local feed resources to increase the competitiveness of the domestic livestock industry. The Division will also work on policy issues that include dairy value chain studies and the development of a national breeding policy. These efforts will add further value to the Mauritius livestock industry.

Partners:

Food and Agricultural Research Council, Mauritius

Agricultural Research and Extension Unit,
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For further information

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